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## 1 [Interactive pen-and-ink illustration](#)



Michael P. Salisbury, Sean E. Anderson, Ronen Barzel, David H. Salesin  
July SI GGRAPH '94: Proceedings of the 21st annual conference on Computer graphics  
1994 and interactive techniques

**Publisher:** ACM

Full text available: Pdf (9.30 MB), Ps (33.33 MB)

Additional Information: [full citation](#), [abstract](#), [references](#),  
[cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 15, Downloads (12 Months): 190, Citation Count: 57

We present an interactive system for creating pen-and-ink illustrations. The system uses stroke textures—collections of strokes arranged in different patterns—to generate texture and tone. The user “paints” with ...

Keyw ords: comprehensible rendering, non-photorealistic rendering, prioritized stroke textures

## 2 Computer-generated pen-and-ink illustration of trees

Oliver Deussen, Thomas Strothotte

July SIGGRAPH '00: Proceedings of the 27th annual conference on Computer graphics  
2000 and interactive techniques

**Publisher:** ACM Press/Addison-Wesley Publishing Co.

Full text available:  Pdf (597.81  
KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 113, Citation Count: 28

We present a method for automatically rendering pen-and-ink illustrations of trees. A given 3-d tree model is illustrated by the tree skeleton and a visual representation of the foliage using abstract drawing primitives. Depth discontinuities are used ...

Keyw ords: biological systems, frame buffer tricks, non-realistic rendering

## 3 Moving markup: repositioning freeform annotations



Gene Golovchinsky, Laurent Denoue

October UI ST '02: Proceedings of the 15th annual ACM symposium on User interface  
2002 software and technology

**Publisher:** ACM

Full text available:  Pdf (576.12  
KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 1, Downloads (12 Months): 49, Citation Count: 11

Freeform digital ink annotation allows readers to interact with documents in an intuitive and familiar manner. Such marks are easy to manage on static documents, and provide a familiar annotation experience. In this paper, we describe an implementation ...

Keyw ords: annotation, dynamic document layout, freeform digital ink, repositioning annotations


## 4 Non-photorealistic rendering in context: an observational study



Tobias Isenberg, Petra Neumann, Sheelagh Carpendale, Mario Costa Sousa, Joaquim A. Jorge

June NPAR '06: Proceedings of the 4th international symposium on Non-photorealistic  
2006 animation and rendering

**Publisher:** ACM

Full text available:  Pdf (27.13  
MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 16, Downloads (12 Months): 202, Citation Count: 1

Pen-and-ink line drawing techniques are frequently used to depict form, tone, and texture in artistic, technical, and scientific illustration. In non-photorealistic rendering (NPR), considerable progress has been made towards reproducing traditional ...

**Keyw ords:** evaluation of NPR and traditional scientific illustration, non-photorealistic rendering (NPR), observational study, pen-and-ink illustration

## 5 Perceptually-supported image editing of text and graphics



Eric Saund, David Fleet, Daniel Larner, James Mahoney

November 2003 UI ST '03: Proceedings of the 16th annual ACM symposium on User interface software and technology

**Publisher:** ACM

Additional Information: [full](#)

[citation](#),  
[abstract](#),  
[references](#),  
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Full text available: [Mov](#) (3:16 MIN), [Pdf](#) (1.42 MB), [Wmv](#) (3:16 MIN)

**Bibliometrics:** Downloads (6 Weeks): 12, Downloads (12 Months): 110, Citation Count: 15

This paper presents a novel image editing program emphasizing easy selection and manipulation of material found in informal, casual documents such as sketches, handwritten notes, whiteboard images, screen snapshots, and scanned documents. The program, ...

**Keyw ords:** WYPIWYG, bitmap image, foreground/background, lattice grouping, perceptual document editing, rough document, scanscribe

## 6 eFuzion: development of a pervasive educational system



Chad Peiper, David Warden, Ellick Chan, Boris Capitanu, Sam Kamin

September 2005 ACM SIGCSE Bulletin, Volume 37 Issue 3

**Publisher:** ACM

Full text available: [Pdf](#) (797.12 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 46, Citation Count: 1

Established as a research project at the University of Illinois in the spring of 2002, eFuzion has proven to be a valuable and effective pedagogical set of tools. It provides the capacity to both mentor and assess students individually, both during and ...

**Keyw ords:** Tablet PC, classroom presentation, collaborative learning, digital ink, educational technology, lecture notes, wireless learning environment


## 7 InkSeine: In Situ search for active note taking



Ken Hinckley, Shengdong Zhao, Raman Sarin, Patrick Baudisch, Edward Cutrell, Michael Shilman, Desney Tan

April 2007 CHI '07: Proceedings of the SIGCHI conference on Human factors in computing systems

**Publisher:** ACM

Full text available:  Pdf (1.27 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 19, Downloads (12 Months): 224, Citation Count: 1

Using a notebook to sketch designs, reflect on a topic, or capture and extend creative ideas are examples of active note taking tasks. Optimal experience for such tasks demands concentration without interruption. Yet active note taking may also require ...

Keyw ords: gestures, handwriting, ink, input, pen, search, tablet

## 8 eFuzion: development of a pervasive educational system



Chad Peiper, David Warden, Ellick Chan, Boris Capitanu, Sam Kamin

June 2005 ITiCSE '05: Proceedings of the 10th annual SIGCSE conference on Innovation and technology in computer science education

**Publisher:** ACM

Full text available:  Pdf (797.12 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 46, Citation Count: 1

Established as a research project at the University of Illinois in the spring of 2002, eFuzion has proven to be a valuable and effective pedagogical set of tools. It provides the capacity to both mentor and assess students individually, both during and ...


Keyw ords: Tablet PC, classroom presentation, collaborative learning, digital ink, educational technology, lecture notes, wireless learning environment

## 9 Designers' use of paper and the implications for informal tools

Damon J. Cook, Brian P. Bailey

November 2005 OZCHI '05: Proceedings of the 19th conference of the computer-human interaction special interest group (CHISIG) of Australia on Computer-human interaction: citizens online: considerations for today and the future

**Publisher:** Computer-Human Interaction Special Interest Group (CHISIG) of Australia

Full text available:  Pdf (336.87 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

**Bibliometrics:** Downloads (6 Weeks): 2, Downloads (12 Months): 58, Citation Count: 3

While informal tools can benefit early design, their use requires that a designer surrender the richer affordances of physical tools. To better understand the importance of physical tools for early design, we conducted contextual interviews with twelve ...

Keyw ords: digital ink, early design, informal tools, sketching

## 10 Newton's Pen: a pen-based tutoring system for statics



WeeSan Lee, Ruwanee de Silva, Eric J. Peterson, Robert C. Calfee, Thomas F. Stahovich  
August 2007 SBI M '07: Proceedings of the 4th Eurographics workshop on Sketch-based  
interfaces and modeling

**Publisher:** ACM

Full text available: Pdf (351.52  
KB)

Additional Information: [full citation](#), [abstract](#), [references](#)

**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 14, Citation Count: 0

We present Newton's Pen, a statics tutor implemented on a "pentop computer", a writing instrument with an integrated digitizer and embedded processor. The tutor, intended for undergraduate education, scaffolds students in the construction of free body ...

## 11 I/O brush: drawing with everyday objects as ink



Kimiko Ryokai, Stefan Marti, Hiroshi Ishii  
April 2004 CHI '04: Proceedings of the SIGCHI conference on Human factors in computing  
systems

**Publisher:** ACM

Full text available: Pdf (738.88  
KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index  
terms](#)

**Bibliometrics:** Downloads (6 Weeks): 54, Downloads (12 Months): 163, Citation Count: 22

We introduce I/O Brush, a new drawing tool aimed at young children, ages four and up, to explore colors, textures, and movements found in everyday materials by "picking up" and drawing with them. I/O Brush looks like a regular physical paintbrush but ...

Keyw ords: building blocks, children, drawing, explaining, input device, storytelling, tangible user interface

## 12 Extracting reusable document components for variable data printing



Steven R. Bagley, David F. Brailsford, James A. Ollis  
August 2007 DocEng '07: Proceedings of the 2007 ACM symposium on Document  
engineering

**Publisher:** ACM

Full text available: Pdf (748.64  
KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 5, Downloads (12 Months): 78, Citation Count: 0

Variable Data Printing (VDP) has brought new flexibility and dynamism to the printed page. Every printed instance of a specific class of document can now have different degrees of customized content within the document template. This flexibility comes ...

Keyw ords: PDF, SVG, content extraction, graphic objects, posrScript, variable data printing

### 13 Drawing and animation using skeletal strokes



Siu Chi Hsu, Irene H. H. Lee

July SIGGRAPH '94: Proceedings of the 21st annual conference on Computer graphics 1994 and interactive techniques

**Publisher:** ACM

Full text available: Pdf (2.14 MB), Ps (4.06 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 18, Downloads (12 Months): 245, Citation Count: 33

The use of skeletal strokes is a new vector graphics realization of the brush and stroke metaphor using arbitrary pictures as “ink”. It is based on an idealized 2D deformation model defined by an arbitrary path. Its expressiveness ...

### 14 Rotated dispersed dither: a new technique for digital halftoning



Victor Ostromoukhov, Roger D. Hersch, Isaac Amidror

July SIGGRAPH '94: Proceedings of the 21st annual conference on Computer graphics 1994 and interactive techniques

**Publisher:** ACM

Full text available: Pdf (691.60 KB), Ps (1.62 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 1, Downloads (12 Months): 57, Citation Count: 4

Rotated dispersed-dot dither is proposed as a new dither technique for digital halftoning. It is based on the discrete one-to-one rotation of a Bayer dispersed-dot dither array. Discrete rotation has the effect of rotating and splitting a significant ...

### 15 Curve analogies

Aaron Hertzmann, Nuria Oliver, Brian Curless, Steven M. Seitz

July 2002 EGRW '02: Proceedings of the 13th Eurographics workshop on Rendering

**Publisher:** Eurographics Association

Full text available: Pdf (384.18 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 67, Citation Count: 13

This paper describes a method for learning statistical models of 2D curves, and shows how these models can be used to design line art rendering styles by example. A user can create a new style by providing an example of the style, e.g. by sketching a ...


## 16 Hierarchical parsing and recognition of hand-sketched diagrams



Levent Burak Kara, Thomas F. Stahovich

October UI ST '04: Proceedings of the 17th annual ACM symposium on User interface software and technology

**Publisher:** ACM

Full text available:  Pdf (420.41 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 111, Citation Count: 11

A long standing challenge in pen-based computer interaction is the ability to make sense of informal sketches. A main difficulty lies in reliably extracting and recognizing the intended set of visual objects from a continuous stream of pen strokes. Existing ...

Keyw ords: Simulink, pen computing, pnns, sketch understanding, symbol recognition, visual parsing

## 17 Sensing techniques for mobile interaction



Ken Hinckley, Jeff Pierce, Mike Sinclair, Eric Horvitz

November UI ST '00: Proceedings of the 13th annual ACM symposium on User interface software and technology

**Publisher:** ACM

Full text available:  Pdf (389.16 KB)

Additional Information: [full citation](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 38, Downloads (12 Months): 502, Citation Count: 61

Keyw ords: context-awareness, input devices, interaction techniques, mobile devices, mobile interaction, sensing, sensors

## 18 Real-time painterly rendering for MR applications



Michael Haller, Daniel Sperl

June GRAPHITE '04: Proceedings of the 2nd international conference on Computer graphics and interactive techniques in Australasia and South East Asia

**Publisher:** ACM

Full text available:  Pdf (936.79 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 5, Downloads (12 Months): 71, Citation Count: 3

In this paper we describe a real-time system for AR/MR rendering applications in a painterly style. Impressionistic images are created using a large number of brush strokes, which are organized as 3d particles to achieve frame-to-frame coherence. Reference ...

Keyw ords: augmented reality, mixed reality, non-photorealistic rendering, painterly rendering

## 19 [High dynamic range imaging](#)



Paul Debevec, Erik Reinhard, Greg Ward, Sumanta Pattanaik  
August 2004 SIGGRAPH '04: ACM SIGGRAPH 2004 Course Notes

**Publisher:** ACM

Full text available: Pdf (20.22 MB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 81, Downloads (12 Months): 790, Citation Count: 0

Current display devices can display only a limited range of contrast and colors, which is one of the main reasons that most image acquisition, processing, and display techniques use no more than eight bits per color channel. This course outlines recent ...

## 20 [Catch that speeding turtle: latching onto fun graphics in CS1](#)



Tanya Markow, Eugene Ressler, Jean Blair  
November 2006 ACM SIGAda Ada Letters, Volume XXVI Issue 3

**Publisher:** ACM

Full text available: Pdf (461.00 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 1, Downloads (12 Months): 47, Citation Count: 0

Graphics are a great way to keep students motivated early in a computer science program. This paper introduces a simple Ada graphics package that simultaneously meets two goals: it provides a easy to understand graphics package that leads to enjoyable ...

Keywords: Ada, AdaGraph, CS1, GtkAda, TurtleGraphics, graphics, logo, spider

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